

REMARKS

Entry of the foregoing and reconsideration of the subject application are respectfully requested in light of the amendments above and the comments which follow.

As correctly noted in the Office Action Summary, claims 26-34 were pending. By the present response, claims 26, 28, and 29-31 have been amended. Thus, upon entry of the present response, claims 26-34 remain pending and await further consideration on the merits.

Support for the foregoing amendments can be found, for example, in at least the following locations in the original disclosure: the original claims.

Some claim amendments presented herein merely address typographical or grammatical issues of the pending claim.

CLAIM REJECTIONS UNDER 35 U.S.C. §102

Claims 26, 28-29 and 31 stand rejected under 35 U.S.C. §102(b) as being anticipated by WO 00/18583 to Trovinger (hereafter "*Trovinger et al.*") on the grounds set forth in paragraph 2 of the Official Action. For at least the reasons noted below, this rejection should be withdrawn.

The present application is directed to a method for folding sheet material. Figures 1a to 1c illustrate an exemplary sheet folding apparatus 100 folding sheet material. The exemplary sheet folding apparatus 100 has a fold blade receptacle 114 including two flexible spring members 118 fixed to a support 120. A sheet S is feed into an area between the fold blade 104 and the receptacle 114. A clamp 108 clamps the sheet S against the fold blade 104. The fold blade 104 and the fold blade

receptacle 114 are moved toward each other (Fig. 1b) to form a fold. Flexible spring members 118 flex outward to receive the sheet S and fold blade 104. The spring bias of the flexible spring members 118 achieves a sharp fold in the sheet S.

The features and operation of the exemplary fold apparatus are generally embodied in applicant's independent claims. For example, claim 26 recites that a method for folding sheet material comprises, *inter alia*, the steps of feeding a sheet into an area between a fold blade and a fold blade receptacle, clamping the sheet against the fold blade with a clamp; and folding the sheet by moving the fold blade and the fold blade receptacle relative to one another to form a fold in the sheet by a biasing force pre-loaded in a material of the fold blade receptacle.

The rejection under 35 U.S.C. §102(a) over the disclosure in *Trovinger et al.* should be withdrawn because *Trovinger et al.* does not disclose each and every element of applicant's claim 26. Therefore, an anticipation rejection is improper.

The Official Action has identified element 230 of *Trovinger et al.* with the claimed fold blade receptacle with pre-loaded biasing force. See, paragraph 2 of the Official Action. However, this interpretation is not in keeping with the disclosure in *Trovinger et al.*

Trovinger et al. describes the disclosed fold mechanism beginning at page 21. Fold flaps 230 are shown in Figure 15 as rigidly attached to each other through an upper stop and rigidly mounted on two glide rods 226. The disclosure in *Trovinger et al.* describes the operation of fold flaps 230. Fold flaps are winged elongate structures having an opening angle that meets or exceeds the angle of the fold blade folder 218 so that the fold flaps can receive the fold blade holder within the folder assembly. The fold flaps begin the deformation of the sheet into a folded shape, but

without producing a sharp fold line. Further, the fold flaps reduce the force required to initiate a fold by pressing the sheet at some distance from the fold blade 217. See page 22, lines 16-24. Thus, there is no specific disclosure within *Trovinger et al.* that fold flaps 230 have a pre-loaded bias force in the material of the fold flaps. For at least this reason, the *Trovinger et al.* does not disclose each and every element of applicant's claims and the rejection has not established anticipation with respect to the present claims.

Moreover, the difference between the apparatus disclosed in *Trovinger et al.* and that disclosed in the present application can be seen simply in Figure 1a of the present application and Fig. 15 of *Trovinger et al.* For example, in Fig. 15, fold flaps 230 are shown as rigidly attached to each other through an upper stop and rigidly mounted on two glide rods 226. Thus, the structure of the fold flaps and the supporting associated elements disclosed in *Trovinger et al.* would appear to preclude a biasing force pre-loaded in a material of the fold blade receptacle as presently claimed. Further and in contrast to Fig. 15 of *Trovinger et al.*, applicant's specification, e.g., in Fig. 1a, illustrates a spring biased receptacle 114. As shown in Figs. 1b and 1c, the flexible spring members 118 clearly interact with the fold blade 104 to form the fold as the material passed between the flexible spring members. Further, applicant's disclosure at paragraph [0021] indicates that the flexible spring members 118 flex outward to receive the sheet and fold blade.

In addition, the disclosure in *Trovinger et al.* clearly indicates that the fold flaps 230 begin the deformation of the sheet into a folded shape, but without producing a sharp fold line. Thus, the noted elements of the disclosure in *Trovinger et al.* does not fold a sheet of material but merely initiates a fold by pressing the

sheet at some distance from the fold blade. Indeed, *Trovinger et al.* has further structural features such as a plurality of fold rollers 230 which create the final shape of the fold in the sheet. See *Trovinger et al.*, page 23, lines 20-24.

Finally, in contrast to the allegation in Official Action at paragraph 2, the disclosure in *Trovinger et al.*, page 22, second paragraph does not include contact between the central portion of fold flap 230 and the fold blade during insertion/folding operation. Rather, the winged elongate structure of the fold flaps contacts the sheet material and the pinch wheel 232 applies pressure to the fold blade with the sheet material therebetween.

From the above, it is respectfully submitted that an anticipatory rejection of claim 26 over the disclosure in *Trovinger et al.* is improper because the *Trovinger et al.* disclosure simply does not disclose all of the claimed features of applicant's independent claim 26. For at least this reason, the rejection should be withdrawn.

The remaining claims depend from independent claim 26 and are therefore improperly rejected as anticipated by the disclosure in *Trovinger et al.* for at least the same reasons as discussed above with respect to claim 26.

CLAIM REJECTIONS UNDER 35 U.S.C. §103

Claims 27 and 30 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Trovinger et al.* in view of U.S. Patent No. 5,169,376 to Reis et al. (hereafter "*Reis et al.*") on the grounds set forth in paragraph 4 of the Official Action. This rejection is respectfully traversed.

These claims depend from claim 26 and rely upon the primary reference of *Trovinger et al.* as a basis for the rejection. As argued above, this reference does

not anticipate the independent claims. The Office Action has not established how the disclosure in *Reis et al.* contributes to overcoming the deficiencies in the disclosure of *Trovinger et al.* Thus, reconsideration and withdrawal of the rejection are respectfully requested.

Further, even if the disclosure in *Reis et al.* contributed to overcoming the deficiencies in *Trovinger et al.*, a rejection under 35 U.S.C. §103(a) would be improper because a *prima facie* case of obviousness has not been established.

Three basic criteria are required to establish a *prima facie* case of obviousness. First, there must be a suggestion or motivation to modify the reference or to combine the teachings. Second, a reasonable expectation of success for the proposed modification or combination must be presented. Finally, the references must teach or suggest all of the claim limitations.

Specifically, *Trovinger et al.* discloses that pinch wheel 232 applies pressure to the fold blade with the sheet material therebetween. The pinch wheels 232 are rotated about their rotational axis when the assembly is translated along a direction of the fold blade. See Figs. 17 and 18 and pages 23-25. In contrast, *Reis et al.* has a cutout fold blade 5, 5a (see Fig. 2) that does not contact an analogous pinch wheel, but rather is constructed specifically to avoid contact with the pinch wheel. Further in contrast to *Trovinger et al.*, the sheet material in *Reis et al.* is transferred through the upper rollers that prefold the sheet to lower rollers that complete the fold. Col. 3, lines 26-42.

Finally, the pinch wheels 232 of *Trovinger et al.* that contribute to putting the fold in the sheet material are mounted to rotate along the fold blade 218, e.g., mounted with an axis perpendicular to the fold blade. The rollers in *Reis et al.* are

mounted parallel to the fold blade. The motivation to one of ordinary skill and the likelihood of success for a modification of these two systems has yet to be established.

ALLOWABLE SUBJECT MATTER

Applicants note with appreciation the indication that claims 32-34 are allowed, as noted in paragraph 5 of the Official Action.

CONCLUSION

From the foregoing, further and favorable action in the form of a Notice of Allowance is earnestly solicited. Should the Examiner feel that any issues remain, it is requested that the undersigned be contacted so that any such issues may be adequately addressed and prosecution of the instant application expedited.

Respectfully submitted,

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Date: July 6, 2004

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